

UML Awards Its First Ph.D. in Biomedical Engineering and Biotechnology

Multi-Campus Program Offers Classes on Four UMass Campuses

Gene Cardarelli will become the first doctoral graduate of the multi-campus Biomedical Engineering and Biotechnology program after he successfully defended his dissertation in late November. His dissertation committee consists of Drs. Clayton French, David Wazer and David Medich.

Biomedical Engineering and Biotechnology is a multi-campus program offered at the Boston, Dartmouth, Lowell and Worcester campuses. It accepts students with a wide range of science and engineering backgrounds. Spearheaded by Jerry Hojnacki, dean of the Graduate School, the program will help meet the growing need for professionals with expertise in both biology and engineering. Hojnacki says, "It is a

major benchmark for us to have Lowell as the premier campus of this program and to be the first campus to award a doctorate in this degree." He points out that this degree will meet an important niche in economic development in Massachusetts with the high number of pharmaceutical, biotech and medical device companies based in the state.

According to French, the multi-campus program also offers students the flexibility of taking classes on any of the four campuses. It also enables them to tap into the talent in their specialty areas on all four campuses. For Cardarelli, who hails from Rhode Island and is a medical physicist at Rhode Island Hospital, this meant he



▲ Congratulating Gene Cardarelli, second from left, on the successful defense of his dissertation are, from left, Prof. Clayton French, Dean Jerry Hojnacki and Prof. Bryan Buchholz, director of the Biomedical Engineering and Biotechnology Program.

could take courses at Lowell and also at Dartmouth, which was significantly closer to home for him.

The program has grown since it first was launched in 2002. Currently, there are 60 students enrolled with 45 at the Lowell campus.

—JH

"Bringing the Richness Back" to the Classroom

New Program Reaches Out to City's Middle-Schoolers

There was a time, not so long ago, before the days of MCAS tests and statewide budget cuts, when an eighth-grade classroom was a lot more fun than today. There were art lessons, music lessons, play-acting, sometimes even hobbies and games. It made for a well-rounded day.

At Lowell's old Bartlett School, in the school-year that began last October, those times may be on their way back. In a new, hour-long extended-day program, the outgrowth of a partnership between the city and UMass Lowell, a curriculum heavy on non-academic doings is serving as a model for the city as a whole.

"Art, music, drama, all those sorts of things—they've gotten short shrift in the high-stakes testing environment we have in the schools today," says Judith Boccia, director of the Center for Field Services and Studies (CFSS) in the Graduate School of Education. "What we're doing at the Bartlett is trying to reverse that trend a little, to get some of that richness back."

Since the start of the school year Oct. 5, roughly 100 middle-school students at the new Bartlett Community Partnership School—itsself a creation of an innovative new partnership between the University and the city—have been extending their school days by an hour, from 2:50 to 3:50 p.m., to take part in an "enrichment program" taught largely by University faculty and students, that has them playing chess, taking photos, drawing maps, doing archeology projects, dancing, playing instruments, and getting homework help. The fall session featured a course in local history; upcoming courses include writing, robotics, green chemistry and nanotechnology. For those middle-school students not being served by the University (there are roughly 250 total in the

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Art Student Develops Logo for Ward Hill Business Park

Sen. Steven Baddour Brought UML and Business Group Together

Senior art major Scott Cahill has learned that community relationship-building is as much an art as his chosen field of study. And according to all involved with his project designing a logo for a Ward Hill business group, he earned an "A" in both areas.

That project began about two years ago, when state Sen. Steven Baddour talked with Chancellor William T. Hogan about involving the University with the greater Haverhill community. The perfect link-up soon presented itself when business leaders expressed to Baddour a need for signs in the Ward Hill business park, for which they needed a logo designed at little or no cost.

"The senator came up with the idea of us getting involved with the

University, and it mushroomed from there," says Bud Hart, with the Ward Hill Park Association.

"It is a great example of UMass and its students cooperating with the community," says Baddour.

Baddour's office contacted Renae Lias Claffey, director of Government Relations, who contacted Art Department Chair Jim Coates. The two met with Hart and others to determine the Association's needs. Coates pledged assistance, and asked Asst. Prof. Karen Roehr to handle the project. Roehr identified the best student for the job—Scott Cahill—and supervised his work. After developing several designs, Cahill presented them to Ward Hill Association leaders.

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U.S. Army Funds a National Research Council Fellow

Nanopolymers Advance Fire Safety for Soldiers

Innovative work on flame resistant materials has earned the respect and attention of the U.S. Army—as well as new funding.

Arthur Watterson, director of the Institute for Nano Science and Engineering Technology (INSET) spearheaded the original research in collaboration with Dr. Lynne Samuelson of the Natick Soldier Systems Center. Watterson also credits Prof. Jayant Kumar of the Physics Department and director of the Center for Advanced Materials (CAM), Dr. Rajesh Kumar of INSET and Dr. Virinder S. Parmar, visiting professor in chemistry, for their work and insightful contributions.

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IN OTHER NEWS

The Ombuds Solve Problems— Alan Lincoln says that after five years as problem solver, the biggest question is always, "What's an ombuds?"

Good Morning, Bruce Jackson—ABC's Good morning America interviews Asst. Prof. Bruce Jackson about his genealogy research on African-Americans.

Frightening Laboratory Work—Wang School students create scary Halloween creatures in Doug Prime's Design Laboratory.

To see these and other stories, go to UMass Lowell's new online eNews Web site at www.uml.edu/enews

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U.S. Army Funds a National Research Council Fellow

The discovery involves the use of certain enzymes as catalysts to synthesize a new class of polysiloxane materials under mild and environmentally friendly reaction conditions.

Science magazine took notice with a report in the Oct. 15, 2004 issue; a U.S. patent has been issued.

"We knew we had potential with this material—that it's environmentally safe and benign, both to produce and to use—and that it solves many of the problems associated with flame-retardant compounds in wide use," says Watterson.

The Army has a significant need for improved, cost effective and environmentally safe flame retardant clothing. Burn injuries are increasing due to urban warfare and from a multitude of flame hazards: incidental exposure, accidents with battlefield combustibles, and enemy attack with thermal or chemical weapons, explosions, or ballistics. The loss of highly trained military personnel in combat from burn injuries is detrimental to operations and expensive; millions of dollars are spent each year on burn injury treatment for the military and costs continue to rise.

Appropriately designed flame protective clothing can provide critical seconds to escape. Current military clothing made from Nomex and Kevlar provides adequate flame protection but the cost to issue these fabrics to every soldier is prohibitive. Lower cost solutions include flame retardant treatments that add 20 percent in weight and use toxic halogenated polymers, many of which are being banned today, worldwide, for environmental and human safety reasons. Melt drip is another undesirable property of these synthetic fabrics because the melt is known to cause



▲ National Research Council Fellow Dr. Ravi Mosurkal, second from right, and part of the research team on environmentally safe flame resistant materials—from left, Drs. Lynne Samuelson, Jayant Kumar and Arthur Watterson

additional serious burns.

"Our research investigates a new class of low cost materials that are comparable to Nomex and Kevlar in flame retardancy, have virtually no melt drip and are safe for humans and the environment," says Watterson. "The research is based on the high selectivity of nature's catalysts—the enzymes—and could result in a significant breakthrough in fire safe materials."

The new funding is a three-year grant from the Army's Environmental Quality Program and will fund a National Research Council post-doctoral fellow, Dr. Ravi Mosurkal, who already works with CAM and INSET on the enzymatic synthesis of new materials.

"We are developing the technology and expect to produce fire safe materials—using green chemistry—that eliminate both the generation of toxic materials upon combustion and the leaching of toxic chemicals onto human skin," says Samuelson. "Within three years, we hope to have a material that can be processed as a simple coating or spun into fibers for textile applications that can meet or beat the performance properties we're aiming for."

—SS

University Launches Television Advertising Campaign

Viewers Asked to 'Raise Your Sights'

Thousands of television viewers are getting an opportunity to see what most of us have known for some time—UMass Lowell has a lot to offer.

The University launched a television advertising campaign in January that is designed to raise its visibility outside the region. The television spots focus on some of the University's premier programs, including nanotechnology, sound recording technology and green chemistry, ending with the mes-

sage that Lowell is just "25 miles from Boston." They can be viewed at: www.uml.edu/Media/ads.

The ads feature University faculty, students and programs and include expansive aerial shots of the campus as they encourage viewers to "raise your sights." Developed by the Office of Public Affairs, the three ads—two 30-second and one 15-second spots—are running on a variety of Boston television stations for several weeks.

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Art Student Develops Logo for Ward Hill Business Park

Cahill says he was initially apprehensive about the scope of the project. "Once I met with Bud Hart and other members of the Ward Hill Park Association," he says, "this apprehension disappeared and was replaced with excitement."

"Scott had a lot of ideas and he came up with some really great stuff," says Hart. Adds Roehr, "Scott was willing at every juncture to listen to feedback from the client."

The group chose one logo to work with, asked Cahill to tweak it, and then develop it for 12 signs to be posted throughout the park—two of which are now highly visible from Route 125, the Ward Hill Connector, in Haverhill. The group also came up with a tag line for the signs, "Unified for Progress."

"I feel very grateful for this chance to create a

cohesive branding for the Ward Hill Park and the chance to be a part of something important at this point in my career," says Cahill, who currently works in the publications office at Middlesex Community College.

"Scott is incredibly talented. He did a wonderful job," says Roehr.

—RC



▲ Admiring the new logo and signage at the Ward Hill Industrial Park are, from left, Renae Lias Claffey, University Communications; Prof. Jim Coates, Art Department chair; Bud Hart of the Ward Hill Park Association; Diane Franz, senior vice president of community investments for the United Way of Merrimack Valley and Ken Nydham, business manager for Covanta Energy, both of whose businesses are located in the park; art student Scott Cahill, who designed the logo; and Sen. Steven A. Boddour. Not pictured is Asst. Prof. Karen Roehr, who supervised Cahill's work.

Reorganized Academic and Student Affairs Division Emphasizes Teamwork

Stress Placed on Communication, Leadership and Collaboration

At one point, Associate Vice Chancellor Joyce Gibson had 11 directors reporting to her. According to good management practices, she says, seven should be the maximum.

So, nearly a year ago, she began realigning her organization—the Academic and Student Affairs Division—beginning with the creation of a Senior Academic Services Staff. Her goal was to create an organization that would place a premium on communication, commitment, collaboration and other virtues that aren't alliterative—like leadership, service and accountability.

From every indication, the reorganized division is achieving its goals quite nicely.

For confirmation, one need only ask any member of the four-member Senior Academic Services Staff (SASS): Registrar Pat Duff; Dean of Students Larry Siegel; Tom Taylor, dean of Enrollment Management and Student Success; or Jane Worthley associate director of Academic Services and Administration.

Duff says, "With the SASS team that Joyce has instituted, for the first time offices that never really talked to each other are meeting on a regular basis." The various offices can plan, she says, and inform one another of changes.

"What might be minor issues for one area can become major if that area is not aware. We certainly are not the same office we were one year ago."

In the past, says Siegel, the various components of Academic Services always made students a priority, but only from the perspective of their own offices. This could lead, he continues, to the development of policies and pro-

For the full story go to www.uml.edu/enews



▲ Caption

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"Bringing the Richness Back" to the Classroom

middle school), the Bartlett's faculty has offerings of its own.

The session that began in October ended in early December. Three five-week sessions are planned. The next begins Jan. 31.

The purpose of the program, says Dean Donald Pierson of the Graduate School of Education, is not only to enrich the standard Lowell school curriculum and to give University students and faculty a forum for their skills, but also to provide an opportunity for local students who might not otherwise have the chance for such non-traditional pursuits.

"This is part of the University's mission," Pierson says, "to enhance the quality of education in the region in whatever ways we can. This has



▲ Nicole Stewart, a UMass Lowell undergraduate, is a Bartlett volunteer teaching team-building and leadership.

on stuff," says the CFSS's Judith Boccia. "And a lot of it is pretty unusual. It's not the sort of stuff you're going to see at a regular school."

"The pilot program at the Bartlett is going to teach us a great deal about how to go about expanding learning time for both teachers and students," says Lowell Superintendent of Schools Karla Brooks Baehr, who adds that the school has secured a state planning grant to look into refining the model in preparation for extending the school day at other city schools as well. "We know that students need more time in school, also that teachers

need more time to collaborate and do their own learning. We hope to achieve both through [this] program."



▲ Nancy Pitkin, rear, second from left, of the Center for Field Services and Studies, in the school library with Melissa Boyd, rear, center, a teacher at the school and graduate candidate at UMass Lowell, and Danielle Dutton, rear, second from right, a Bartlett teacher and UMass graduate.

been a unique opportunity, both for us and for the city of Lowell. Without what we're offering at the Bartlett, most of these kids during that hour—they'd just be hanging out."

About 25 members of the University's student body, faculty and staff, including at least 11 undergraduates, one graduate student and four professors, as well as several members of the Tsongas Center staff, have taken part in teaching or overseeing the after-school activities, according to Nancy Pitkin of the CFSS, which has been in charge of the recruiting. More Bartlett middle-school students, Pitkin says, are expected to be served at the next two sessions, as faculty recruitments pick up and more courses are made available. The classes, she adds, are deliberately kept small—rarely more than 10 to 12 students to a group.

Some of those teaching in the program include the UMass coordinator of music education, Gena Greher, who has been overseeing musical events; a dance student, who has been taking the middle-schoolers through some modern-dance steps (the stomp was a recent popular addition); a theatre student and several off-season University athletes, who have been helping out with Phys Ed.

"There's been some really hands-

Food Court, Seven Months and \$2.3 Million Later, Is Now Open

New Space is Twice the Size of Old

If all has gone as expected, the Southwick dining hall—now officially the Southwick Food Court—closed for renovations since early last summer, should be open, or about to open, as you read this.

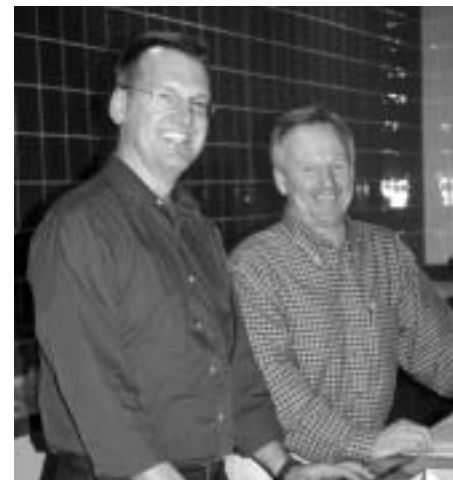
"Our goal is the start of the [spring] semester," said Project Manager Roger Hall on a tour of the site in December. "At least in some capacity, we want to be open when the students come back."

The differences are sure to be a shock to some people. The biggest of these is the size: while the old dining hall was roughly 4,500 square feet with seating space for 145, the new facility will seat close to 300 in an area just under 9,000 square feet. Much of the extra space has been gained through a makeover of what used to be a student lounge—to the left-rear as you entered—which will now be given over to tables and booths for diners.

Another big change is the layout of the space. The serving area—more properly known as the "servery," Roger Hall reminds us—used to be on the left as you entered; it is now on the right, extending the full length of the wall where the student mailboxes once were, and including a rotisserie oven, convection oven and grill area, with three times the serving space as before.

The area will be in two separate sections: the space that made up the old dining hall and the location of the former students' lounge. Perhaps as compensation for the lost lounge space, there are now two flat-screen TVs in different locations for dining-hall viewing.

All this, of course, comes at a price. Total cost for the renovations, says Hall, are in the range of \$2.3 million, with \$350,000 for kitchen equipment



▲ Roger Hall, right, project manager for the Southwick Hall Food Court, with architect Gregg Yanchenco of the firm HKA Architects, the principal architects for the project, in the Food Court in early January while work was still underway.

and millwork alone. The HVAC system has been completely overhauled and updated—another \$450,000 of the cost—with temperature control throughout. "An awful lot of what's been spent," says Hall, "no one is ever going to see—it's hidden behind these walls."

Students, faculty and staff, for the period of the renovations, have been relying heavily on the Smith Hall dining room—Smitty's—which now will see a reduction of that load.

Food Court Plans Grand Opening Feb. 1

The opening of the Southwick Food Court will be celebrated with a week-long festival of raffles, giveaways, special theme days (faculty/staff day, commuter day, etc.), food tastings and other culinary-related events—beginning Jan. 24 and lasting through Feb. 1.

For more information, contact the Special Events Office at ext. 3888.

Congressman Meehan Calls for Bringing Troops Home

But Says U.S. Has 'Certain Moral Obligations'

In the midst of frustration, U.S. Rep. Marty Meehan '78, has taken action. He is pushing legislation establishing a timetable for the withdrawal of troops from Iraq.

In December, he brought his message to Prof. Fred Lewis's political science classes. With a backdrop banner showing a camouflaged armed forces member holding a child and the words "Bringing our Troops Home," there is no mistaking Meehan's position. Meehan made his case to UMass Lowell students, as he has in town meetings around the Fifth Congressional District.

The congressman said he doesn't agree with some members of Congress who are calling for an immediate with-

drawal because "we have certain moral obligations." Meehan's plan calls for a withdrawal of the majority of U.S. forces within 12 to 18 months.

On foreign policy, he said, "The U.S. has lost its moral leadership—the high ground—and we need to get it back." After the fall of Saddam Hussein, "there was a window of opportunity to win the hearts and minds of the Iraqi people. We missed that opportunity... Our biggest problem in Iraq is that they view us as occupiers," he said.

It has been a "frustrating time" for Meehan in Congress. While we as a nation are at war, he said, the Congress is voting for tax cuts—unprecedented



▲ Prof. Fred Lewis of Political Science welcomes U.S. Rep. Marty Meehan '78 to campus prior to speaking to his classes.

activity by a nation with a history of wartime sacrifice. "What kind of society have we become?" he asked.

Lewis regularly invites Meehan to address his classes in part to demonstrate to students that talent and hard work can lead to success in positions of national importance.

Green Chemistry Program Announces Sappi Grant

Research Investigates Nanotechnology With Paper

As scientists invent new materials and processes using nanotechnology, sometimes they look directly to nature.

The Green Chemistry Program at UMass Lowell is embarking on sponsored research into nanotechnology applications using paper—paper as a substrate for electronics, for example—funded by Sappi International.

Sappi Limited, one of the world's largest producers of coated fine paper and chemical cellulose, is based in Johannesburg, South Africa; Sappi Fine Paper North America is headquartered in Boston.

Prof. John Warner, director of the Center for Green Chemistry, announced that funding supports two full-time positions through two years of research: the Sappi Green Chemistry Research Professor and the Sappi Green Chemistry Graduate Student Fellow. Dr. Sofia Trakhtenberg assumes the Green Chemistry research professor position; she is an expert on the characterization of surface properties and applications of environmentally benign polymers and nanoparticles. The Green Chemistry fellow is doctoral student Vineet Dua, who is working on semiconductors and renewable substrates. Sappi is providing the specialized electro-conductive papers to be used in research on low



▲ Dr. Sofia Trakhtenberg

temperature processing of semiconductors.

"The Sappi sponsorship marks a milestone in the development of benign alternatives to current materials and technologies," says Warner. "Look around you now: Almost all products are based on petroleum chemistry and the world's reserves are finite. But the forestry industry is the best place to go to learn about environmentally responsible nanotechnology—a tree is a biodegradable, endlessly renewable resource. Developing high tech applications for forest products is reaching for the highest and best use of a resource."

Warner is a founder of the green chemistry concept, with its goal of designing materials and processes that minimize toxics or environmental impact. In a sign of the growing importance of this area, the 2005 Nobel Prize in chemistry was awarded to a trio of scientists for their development of the metathesis method. According to the committee, "This represents a great step forward for 'green chemistry,' reducing potentially hazardous waste through smarter production. Metathesis is an example of how important basic science has been applied for the benefit of man, society and the environment."

University Launches F. Bradford Morse \$1M Endowment Campaign

Fund Will Support Study of International Relations and Annual Lecture

The University has initiated a \$1 million endowment campaign named for F. Bradford Morse, the late congressman from Lowell and long-time United Nations official.

The F. Bradford Morse Endowment for the Study of International Relations, Sustainable Development and Peace will fund an annual distinguished lecture series and conference on the United Nations or a related topic and support UML's award-winning student International Relations program as well as a model United Nations program for high schools organized by the University.

Each year UML will present a distinguished guest who will deliver a public lecture on international relations, sustainable development in a global context or strategies for achieving peace among nations.

The endowment already includes \$65,000, largely from an infusion of seed money from professors emeriti Dean Bergeron of history and Joyce Denning of political science. The goal is to reach \$1 million in five years.

"The endowment will not only help sustain outstanding student programs but also will make UMass Lowell better known as a center for thoughtful and inspired discussion about international issues," said Bergeron, who, along with Denning, has been a major financial supporter of the University's programs in international relations and political science.

Morse's widow, Josephine, said that she and her daughter, Stephanie, are "enormously pleased" about the endowment.

"Although my late husband's international responsibilities took him around the world many times, he always had a special place in his heart

for the people of Lowell, his hometown and where he began his career in public service," she said.

In addition to the Morse Endowment, a faculty committee is exploring the possibility of creating an inter-disciplinary global studies program that would strengthen the study of world issues on campus. The committee will make a final recommendation to Provost John Wooding this spring.

"It's never been more important for students, teachers and citizens everywhere to understand the global dimension of actions, political changes, economic factors and cultural contexts in other countries of the world and the profound impact they have on daily life here in the U.S.," Wooding said.

"UMass Lowell is pleased to recognize F. Bradford Morse as an extraordinary leader in international and national affairs who consistently advocated for global understanding," he added. "This endowment will help future leaders make intelligent contributions to that understanding, to sustainable development and to world peace."

Morse, who was born in Lowell, was a graduate of Boston University, where he earned his law degree in 1949. He also received an honorary doctorate from UMass Lowell. Before his death in 1994, Morse served as a Lowell city councilor, deputy administrator of the Veteran's Administration and Fifth District U.S. representative from 1961 to 1972. At the United Nations, he was undersecretary general for political and general assembly affairs, director of the Development Program and founder and head of the Office of Emergency Operations for Africa. He led the review of the controversial Sardar Sarovar Dam Project in India for the World Bank, which exposed potential major environmental damage and mistreatment of indigenous people.

Teddy Bears Rain in Dollars for Make-A-Wish Foundation

Athletics Event Raises \$1,000

At a December UMass Lowell hockey game, fans aimed their plastic-wrapped Teddy Bears at Rowdy the River Hawk's shopping cart as he skated around the rink. Later, kids collected the bears off the ice so they could be brought to Lowell General Hospital's Children's Place pediatric unit. Fans purchased bears prior to the game for \$10, proceeds from which were donated to the Make-A-Wish Foundation. Barnes and Noble Bookstores and UMass Lowell Athletics sponsored the fundraiser.



▲ Rowdy the River Hawk wheels his shopping cart around the ice as a target for fans throwing their pre-purchased Teddy Bears. Successful tossers received gift certificates to Barnes and Noble Bookstores.



▲ Young fans collect Teddy Bears after the toss so that they could be brought to the Lowell General Hospital's Children's Place pediatric unit.

UML Campus Transformation Project

The Service Excellence Team aims for the ideal campus experience for faculty, staff and students. To read the whole story go to www.Uml.edu/enews for the first in a series on the Transformation teams' efforts.



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